

*** Your "SOURCE" for the "HOTTEST" News in Radiation Safety ***



THE RADCO REGISTER

VOLUME 13, No. 3

July 2003

A CECOM PUBLICATION FOR THE U.S. ARMY NATIONAL GUARD



DIRECTORATE FOR
SAFETY
US ARMY, CECOM



The RADCO Register

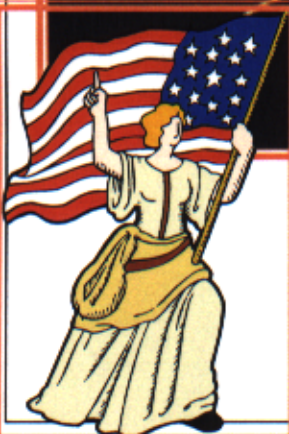
"cooks up"

a "hot" 4th of July...!!



and remember to:

Savor the taste of freedom...



**RADCO "Still" NOT SOLD IN FRANCE





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The distribution and content of this newsletter is directed to Army National Guard activities for which the U.S. Army Communications-Electronics Command (CECOM) Directorate for Safety, Radiological Engineering Division, serves as RSSO. The RADCO Register is published quarterly and is intended as a medium for the exchange of radiation safety information between CECOM and the National Guard Bureau. The primary distribution of this newsletter is to Occupational Health/State Safety Offices, U.S. Property & Fiscal Offices, and Combined Support Maintenance Shops, with local reproduction encouraged.



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www.monmouth.army.mil/cecom/safety

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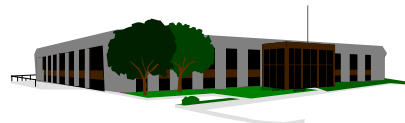
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ON GUARD...

**Wipe it
Right...
The First Time...!!!**

If you send wipe test or leak test samples for analysis to our CECOM Radiological Engineering Laboratory (REL), you may want to read this article... *twice!!!* Why, you ask? It may just save you from performing *twice* the number of wipes, should you happen to send us the wrong type...that's why!

First off, let's review the correct types of sample material that you should use to perform your wipe/leak tests. When testing items containing tritium (H3) or Nickel-63 (Ni63), the preferred wipe test material is a nitrocellulose filter. This filter is commonly known as a "**METRICEL**" wipe.



Place the filter in the scintillation vial with several drops of water (approximately 1 milliliter of water). If you need a pipette to measure the

water, our lab can send them to you. To wipe test for the remaining isotopes in the supply system, you should use the cloth type filter. The preferred type has an adhesive backing and comes with a paper jacket. This filter is commonly referred to as a "**DEFENSAP** or **NUCON**" wipe.

Various licensed commodities in the supply system require periodic leak testing. The procedures to perform leak tests of licensed material are very specific in nature and should be followed explicitly. If you are in doubt, give the REL a call and we will not only provide guidance, we will send you the correct test material. The good news is we've assembled a chart that lists the leak test requirements of commodities supported by the REL:

Item	Leak Test Frequency	Isotope	Leak Test Material
AN/UDM-2	Semi-Annual	Sr-90	Swab
AN/UDM-6	Quarterly	Pu-239	NUCON
M43A1	Annual	Am-241	Swab
CAM/ICAM	Annual	Ni-63	METRICEL
MC-1 **	Annual	Am-241/Cs-137	Swab

**What about the MC-1 Soil Tester? Unfortunately, the leak test sample for this item is not analyzed by the REL for the ARNG. If you

have an MC-1 we KNOW you KNOW where to send it or TACOM would have given you (and us) a call by now.

Now for the bad news: If we receive wipe/leak test samples performed with the wrong material, we will require you to perform the test again. You say you have no time to do the job twice?? How true... and we haven't the time to be running more wipes either. This is why we ask you to get it right..... ***The First Time...!!!***

And while we are on the subject of standardizing the way wipes are performed, the Wipe Test Analysis Request Form (WTARF) used to submit samples to the REL should have "Revised September 2002" in the lower left hand corner and the Leak Test Request Form (LTRF), that is used for submitting leak

test samples of the M43A1, CAM, and ICAM, should have "Revised July 2002" on the bottom of the page. If you need a copy of these forms,

you can download the WTARF from:

<http://www.monmouth.army.mil/cecom/safety/rservice/wfm0902.doc>

and the LTRF from:

<http://www.monmouth.army.mil/cecom/safety/rservice/leaktest.doc> or give the lab a

call and we'll get you a copy. To assist you in the process, we recommend that you use the comments block of the appropriate form when requesting supplies.

Finally, there have been a few cases of RSOs reviewing their Radiation Safety Program (RSP) in anticipation of a CECOM RSP evaluation and find that they are missing results for a wipe test/leak test they have performed. Logically, they give the REL a call and ask for a copy of the results, only to find out that the wipes were never received. Now you have a problem in that the quarter is over, or the leak test due date has passed, which places your RSP in a state of non-compliance.

Why did we not receive the wipes? Your guess is as good as ours, but we have noticed some irregularities in the mail delivery system, especially with all the new force protection requirements that have been put in place.

To preclude this situation in the future, we ask that if you do not receive results from us in a reasonable amount of time, give us a call to ensure we have received the wipes. If we have not we will inform you that you will have to perform the wipes again. Remember, it is your responsibility to ensure you have copies of results of your quarterly surveys on hand during our evaluations.



Now if you need to go back and read this article twice...by all means go ahead!! For when it comes to performing your contamination surveys.... two wipes are not always better than one...!!! ★

For the Record... (keeping)

Our top-notch staff has uncovered some surprising news regarding the Modern Army Record Keeping System (MARKS) – **it's history!** It has been officially replaced by *the Army Records Information Managements System* (ARIMS), addressed in AR

25-400-2 (the same Reg as MARKS), dated 18 March 2003.

So, how will this effect the way you do business? Well, our investigative team has obtained the following information to help you manage your "piles of files":



ARIMS applies to all unclassified Army records and classified Army records through SECRET.

ARIMS intention is to "focus on the management of long-term and permanent records, allowing the business process to manage the short-term records." For example, if two years is the time required to meet the business or mission needs of a specific record, that is how long the record will be kept.

The new system will give individuals a better understanding of what records unique to their respective jobs are required to be saved regardless of the manner on which they were created.

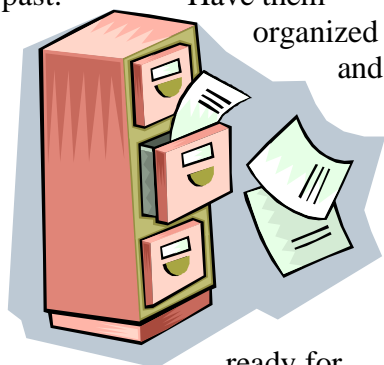
The goal appears to be the simplification of the record keeping process. All records will now be categorized into 2 types, *short term* and *long*

term/permanent, coding the disposition instructions (“K” for keep and “T” for transfer), and shifting the retention and disposition burden to personnel specifically responsible for records holding.

For more information you can also access the ARIMS website at <https://www.arims.army.mil/> where there are some new tools to assist you in maintaining your program. Click on the “RRS-A” Tab at the top, which will prompt you for search criteria. If you enter “Radiation” under Key Word, it will take you to a listing of the file numbers as well as the retention information.

BOTTOM LINE:

Yes, you still have to maintain your files in the same fashion you have in the past. Have them



organized and ready for inspection should the need arise...Even our expert investigative reporters can't get you out of that!!! ★



KUDOS for AN/UDM-2 Operator Trainees



On 17 June 2003 we presented an 8-Hour AN/UDM-2 RADIAC Calibrator Set training course here at CECOM. This class qualified students to be AN/UDM-2 Operators, as well as to provide on-the-job training to additional operators in their respective states. Course topics included: Fundamentals of Radiological Operations; Exposure, Shielding and Biological Effects; RADIAC Instrument Theory; Dosimetry; AN/VDR-2 RADIAC Set Calibration; Pocket Dosimeter Calibration; Performance of Surveys; Leak Test Procedures; Safe Working Practices and Hazards; and Emergency procedures.



Front Row:

J. Hedke, J. Jarvis, T. Tew, L. Tampoc, J. Glenn

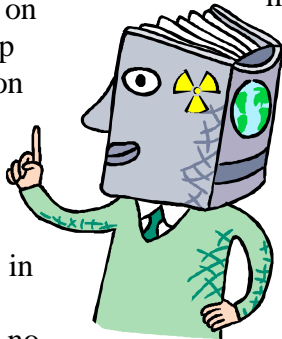
Back Row:

M. Rutter, M. Sanders, J. Hewitt, T. Allen, D. Wiese,
R. Harrop, M. Lynch, J. Olivo, R. Day, M. Hakai,
C. Rohrberg, J. Hoey

Congratulations Graduates!

“Transportation Information for U.S. Army Radioactive Commodities...” A Very “Moving” Piece of Work !!

Transportation Information for U.S. Army Radioactive Commodities is my pen name but you probably know me better as Technical Bulletin (TB) 43-0137. Although I've only been in circulation since 15 November 2002 I have plenty of experience when it comes to moving things around. So if you're looking for guidance on “how to” ship some common (and some not so common) radioactive commodities in the supply system, look no further, I'm bustin' at the seams to help you.



Finding information within me is easy because, for starters, I have a table of contents that is organized by “Type Number,” such as the AN/UDM-2 or the AN/PDR-77. For the multitude of commodities containing tritium, thorium or radium, you merely have to cross reference the NSN listed in my appendage (I mean

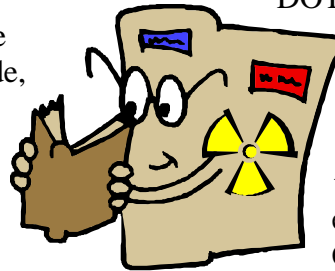
appendix) to the page containing the shipping instructions. Transporting radioactive materials has never been easier...!!

I may be a little plain on the outside, but remember, like all good things, it's what's inside that counts most!

Most of me contains detailed shipping instructions for commercial carrier shipments, military shipments, and information for receiving and opening packages containing radioactive commodities. The shipping instructions contain marking, labeling, packaging, surveying and notification information necessary to ship a DOT compliant package. In addition, a small part of me (about a big toe's worth) contains a table of radioactive shipping limits, a sample radioactive material movement form, and an activity conversion table. It's all there to make the task of shipping radioactive commodities less intimidating.

I am also multi-lingual. In addition to speaking the domestic dialect of DOT, I can also speak the foreign IATA dialect fluently. This will help you to comply with either set of shipping regulations. *For the shipping*

impaired, I know (RAD material) sign language as well.



If you don't know what DOT or IATA is, put the package down and step away from the table. You need to get yourself enrolled in the next CECOM 3-day

Radioactive Commodity Identification and Transportation (RCIT) Course. Graduates of the RCIT course typically work at the United States Property & Fiscal Office (USP&FO), and are proficient in shipping all types of hazardous materials. You should contact that person at your USP&FO for assistance when shipping radioactive commodities.

You can download me from the internet. Simply click on this link: <http://www.logsa.army.mil/etms/online.htm>. After you get to the LOGA electronic technical manuals site, click the “Accept” button, then click the “Enter the Site” button, then type “TB 43-0137” in the “TM Number” block and then click on “Search” button. After the search results are displayed, click on the PIN number, the TM Number or the Title to open the document in PDF format. Hit the print key and I'm all yours....

So if you're looking to ship things by the book... I'm the one for you!!! And one more important thing, if you have any questions or are in doubt about a shipment, please call CECOM first, after all... they wrote the book! ★



IT'S OSCAR TIME

Celluloid Heroes

Congratulations for a job well done to all of the Army National Guard (ARNG) members who attended the CECOM Directorate for Safety 40 Hour Radiation Safety Officer Course held in La-La Land (Los Angeles), California, 19-23 May 03. We would like to take this opportunity to recognize the student who distinguished himself by achieving the highest final course grade of 98.5. That honor goes to Larry C. Mauldin from the CSMS in Georgia. Keep up the good work....you and all of your classmates are a credit to the ARNG.

PUZZLES & BRAIN-TEASERS

QUICKIE QUIZ:

1. Statement: The NRC Form 5 should be posted in an area common to all employees such as a Safety Bulletin Board or the Break Room Bulletin Board.

TRUE FALSE

2. Situation: The Chemical Agent Monitor (CAM) that is owned by your unit was last leak tested 14 months ago, therefore, the CAM is not mission capable.

TRUE FALSE

3. As a dosimetry custodian you should be familiar with the Customer Handbook from U.S. Army Ionizing Radiation Dosimetry Center. The date on latest version of the Handbook is:

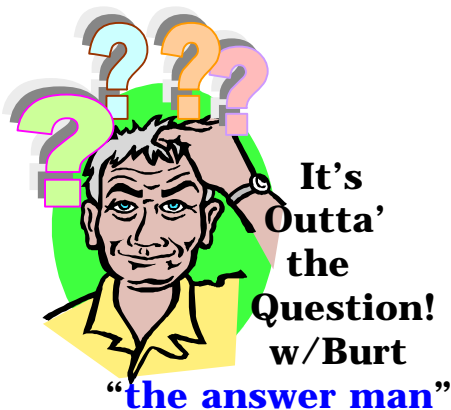
- a. 18 FEB 1999
- b. 28 MAY 1999
- c. 10 JAN 1991
- d. 22 NOV 2002

4. The radiological survey frequency for the MC-1 Tester, Density & Moisture Nuclear Method is:

- a. quarterly
- b. annually
- c. semi-annually
- d. monthly

5. Your unit is deploying to the National Training Center (NTC) for an exercise. The regulation that you should become familiar with prior to your deployment is:

- a. FORSCOM Reg 11-9
- b. FORSCOM Reg 385-11
- c. FORSCOM Reg 350-50-1
- d. FORSCOM Reg 25-400-2



Our first question comes from a Mr.

Dometri do-Right out of Proactive, PA.

I have an emergency response team and may have the need for dosimetry in the event of a radiological accident. Since I will only use them for emergency response, do I have to set up a complete dosimetry program or can I just get the badges and keep them in a locker...?

Mr. do-Right, a radiation monitoring program plays an important role in radiation safety and as such must be setup IAW current regulations. Initial and Annual training; DD Form 1952; NRC Form 5; and Automated Dosimetry Reports are just a few of the terms you will encounter when setting up your program. A great place to start is by reviewing the Dosimetry Customer Handbook at the DA Army

RSO Reference Guide website:

<http://www.monmouth.army.mil/rso/rpomisc/dosimetry%20handbook>.

On another note, I spoke to the good folks down at the Army Ionizing Dosimetry Center with regards to extending the TLD change out frequency to once a year, but due to quality control reasons they said the badges must be returned every 4 months. If you think about it, it's really not too much to ask when your're talking radiation safety!

Our second question is from a Mr. Carmelo Cadz out of Waytoomany, WY.

Recently our state received a large shipment of CAMs and CADs. Now that the SPBS-R Property Book System has been replaced with PBUSE, do I still need to enter these detectors in the DoD RATTS system...?

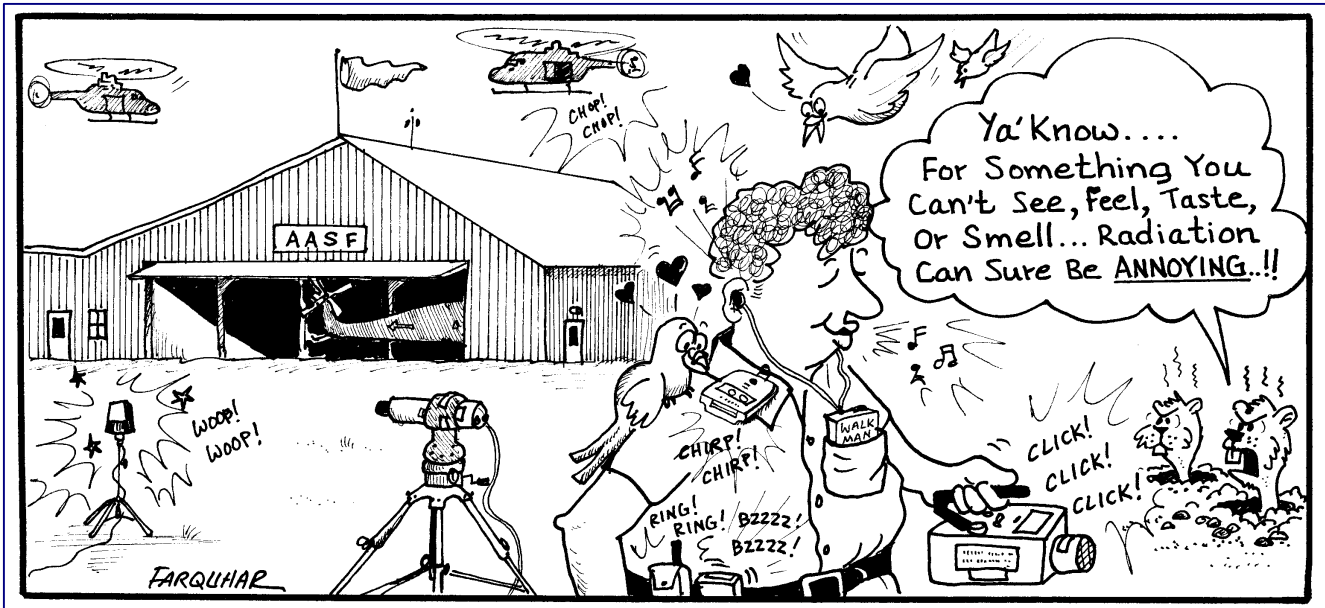
Mr. Waytoomany, don't you just love the Army with all the acronyms? The official DoD Tracking system for Chemical Agent Monitors (CAMs) and Chemical Agent Detectors (CADs) is the DoD Radiation Testing

and Tracking Systems (DoD RATTS). The new Property Book Unit Supply Enhanced (PBUS/E) system does not track the leak test dates for the CAMs/CADs. Contrary to popular belief, some folks believe that when PBUS/E is installed they do not have access to the DoD RATTS and therefore cannot enter in the required data. **PBUS/E has nothing to do with DoD RATTS!** You are still required to enter the CAM/CAD information into the DoD RATTS system.

Here is a quick run down on what generally happens. Unit personnel bring the CAMs/CADs to the CSMS when due for their leak test. CSMS personnel perform the leak test, send the sample to CECOM for analysis and provide the updated information (leak test date, next due date, etc.) to the serialization officer at the USP&FO. The serialization officer updates the DoD RATTS program and everybody is happy. For more details on the DoD RATTS program refer to AR 710-3, Section 4.

Thanks again for your thought-provoking questions...until next time this is Burt bidding you a **"fond farewell"**...now where'd I hit that damn golf ball?





in the field.... by lyle farquhar

NONIONIZING CORNER

Where does RF Energy Go..??? Let's Clean Up the Air..!!

Recall from our last RADCO the concept of power-per-unit area, where the power in this case is RF "Power" in watts, which is the "pushing" ability of the radiofrequency (RF) energy as it "flows" or "sprays" out of a leak or open waveguide section. The frequency at which the equipment operates, the size and shape of the leaking area, the portion of the body exposed, and the duration of that exposure, will determine just how hazardous an individual's exposure might be.

Which brings us to our next topic with regard to RF radiation. What happens to RF energy after it is transmitted from an antenna or leaks out of a waveguide?

When RF energy radiates out from an antenna (or from an RF leak), it begins to spread out, as it gets less concentrated, and eventually comes into contact with our clothing and our bodies.

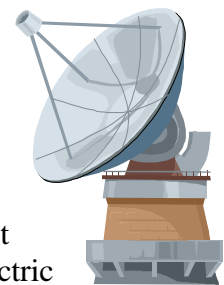
But does it stay with us, contaminating our bodies and our clothing, like a bad stain that won't come out in the laundry?



Let's dispel any concerns about this right away! Our bodies and clothes **DO NOT** become *contaminated* when they are

exposed to **RF energy**, such as the energy coming from a satellite dish.

RF energy is just that, **energy**, electric and magnetic waves traveling through space, not **particulate radiation** (e.g. alpha, beta, etc) emitted from the nucleus of an atom. This is one of several characteristic differences between **non-ionizing** and **ionizing** forms of radiation. The particulate types of radiation **can** contaminate your clothing; RF radiation **cannot**.



Okay, so what really does happen to the RF radiation? Well, to answer this question we must know a little about the makeup of the material being exposed (e.g. our bodies). In short, materials will respond in differing ways to RF energy depending on several factors, including frequency, RF power, and the material's "conductivity" and "permittivity" (the measure of a materials ability to carry an electric current and store an electrical charge).



Recall that we are all mostly made of salt water (saline solution) but there are other ingredients to our human biological "mixture" such as iron, nickel, carbon, calcium, etc. We will, however, concentrate on the majority of our makeup, the salty water we refer to as the saline solution. Because of this our bodies are able to conduct electricity. We usually hear of such things only when someone has been electrocuted by either coming into contact with some faulty wiring or using an electric shaver while soaking in a tub.

Are you getting the big picture yet? Our bodies essentially act as a **conductor** of electrical current...!! We may not conduct current as well as copper wire or other metallic objects, but we **can** and **do** conduct electrical current.

Before we get too "**agitated**," let's shorten our RF "**washload**" for now.... In our next edition of the RADCO, we'll load up on more "**detergent**" and discuss **how** that current flows in our body. ★



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- c. FORSCOM Reg 350-50-1
- d. FORSCOM Reg 25-400-2

The DA RSO Website is Going Secure...!!!

It took some time but we have finally made the transition to https land. That's right the DA RSO Website has gone secure and the new address is <https://www.monmouth.army.mil/rso> (don't forget it has to be all lowercase).

Once there, you will be required to sign in using your Army Knowledge Center Online user name and password. This move will allow us to post controlled documents, which will greatly enhance the site. Check it out and if you have anything you would like to see added or changed, please drop us a line. ★

RADCO REGISTER **E-MAIL Address Form**

The **RADCO Register** is published by the CECOM DS to support the NGB State Radiation Safety Programs. It is distributed electronically. Help us ensure you don't miss a single issue.

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City: _____ State: _____ Zip: _____

E-mail: _____

